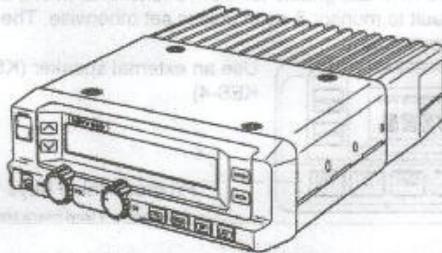


KENWOOD

LAND MOBILE PRODUCTS GROUP

30-SERIES

TK-630 / TK-730 / TK-830
CONVENTIONAL MOBILES
PRODUCT LINE OVERVIEW



COMMUNICATIONS LTD

162 PARK ST / BRIDGE
BRISTOL, CT 06010
(860)589-6545 800-698-3489

KENWOOD

FRONT PANELS

General: Channel capacity depends on the eeprom memory installed in the RF decks, however the front panels limit the actual number of channels that can be displayed. Eeprom memory in the front panel dictates alphanumeric capabilities.

KCH-3 Basic Front Panel

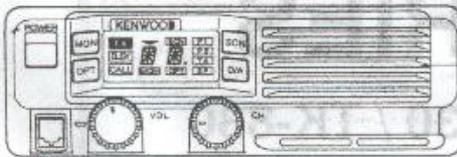
Capable of 32 or 99 channels continuously selectable in one group. Has a 2 character backlit LCD (alphanumerics memory optional).

Channel / Alphanumeric Capabilities:

factory- 32 Channels
 optional- 32 Channels with alphanumerics
 optional- 99 Channels
 optional- 99 Channels with alphanumerics

Eeprom memory required (16K available from a KCH-5 kit)
 (rf deck=4K, front panel=none)
 (rf deck=4K, front panel=16K)
 (rf deck= 16K, front panel=none)
 (rf deck=16K, front panel= 16K)

Programmable Keys: 4 backlit keys, each assignable for 1 of 13 functions. The MON, SCN, OPT & D/A keys are factory labeled as shown. The MON & SCN keys default to monitor & scan unless set otherwise.



Internal 4W speaker

KCH-4 Full Featured Front Panel

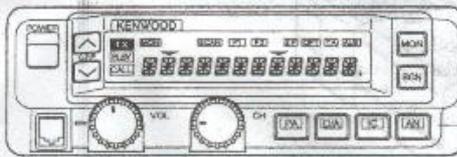
Capable of 32 or 160 channels (divided into groups of 16 ch. each). Has a 12 character backlit LCD (alphanumerics memory for 32 ch. included).

Channel / Alphanumeric Capabilities:

factory- 32 Ch. (2 grp.s x 16 ch.s) with alphanumerics
 optional- 160 Ch. (10 groups x 16 ch.s)
 optional- 160 Ch. (10 groups x 16 ch.s) with alphanumerics

Eeprom memory required (16K available from a KCH-5 kit)
 (rf deck= 4K, front panel=4K)
 (rf deck= 16K, front panel=4K)
 (rf deck= 16K, front panel=16K)

Programmable Keys: 6 backlit keys each assignable for 1 of 13 functions; MON, SCN, & Keys 1 to 4. The MON & SCN default to monitor & scan unless set otherwise. The optional KCH-6A label kit is used to label keys 1 to 4.



Use an external speaker (KSP-1A or KES-4)

Programmable Keys 1 to 4

(factory dummy label inserts provided: black)

KCH-6A Key Labeling Inserts- To custom label keys 1 to 4 on the KCH-4 front panel Includes a set of 10 inserts (letters are translucent for backlighting).



Single piece labels available: a. Sales order desk (tuned orders) - order L622; specify key name: PA, TA, etc.
 b. Parts Dept. - order K29-4705-04xx specify key name "xx": PA, TA, etc.

KENWOOD

RF DECKS

- + **WIDEBAND DESIGN**- Channel frequency spread is the full bandwidth on both transmit and receive.
- + **MODULAR DESIGN**- All rf decks are available individually to accommodate dual band mobile orders and dual band conversions. Service shops can also stock spare rf decks for quick "swapouts" & emergency backup purposes.

[Medium Power Decks]

TK-730BK	150-174 MHZ, 45W
TK-830BK	450-470 MHZ, 35W
TK-830BK2	470-490 MHZ, 35W
TK-830BK3	490-512 MHZ, 35W
TK-830BK4	403-430 MHZ, 35W*

*note: Special order, call for availability

[High Power Decks]

TK-630HBK	29.7-37.0 MHZ, 110W
TK-630HBK2	35.0-43.0 MHZ, 110W
TK-630HBK3	41.0-50.0 MHZ, 110W
TK-730HBK	150-174 MHZ, 110W
TK-830HBK	450-470 MHZ, 75W
TK-830HBK2	470-490 MHZ, 75W
TK-830HBK3	490-512 MHZ, 75W

KXK-2, 2PPM TCXO option

(For TK-730/830 FCC stability requirements for base stations.)

Increases receive & transmit frequency stability from 5PPM (-30 to +60 degrees C) to 2PPM (-30 to +60 degrees C).

For factory installation order labor code, L615: KXK-2, 2PPM TCXO option installation

Note: Accessories such as mics, d.c. cables, mount brackets, etc. should be ordered individually or in an accessory "configuration set"-see the price pages.

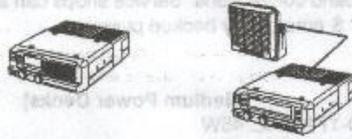
MOBILE CONFIGURATIONS

The 30-Series conventional mobiles are based on a modular design concept. Broken down into components, this consists of RF decks, front panels (two choices), remote kits and accessory items. All mobiles are available in complete assembled packages, or by individual components for conversions and maintenance.

KCH-3 Basic Front **KCH-4 Full-Featured Front**

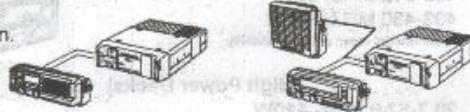
DASH MOUNTS

+Traditional dash mount configuration.



SINGLE HEAD REMOTES

+Traditional remote mount configuration.



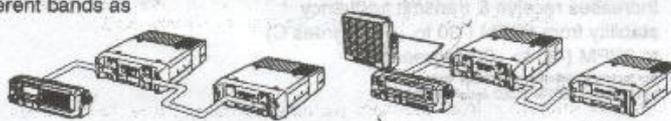
DUAL HEAD REMOTES

- +Two complete control points for the same mobile.
- + Intercom feature between the control heads,
- + TX audio monitor feature allows either control head to hear the transmit audio of the other.



DUAL BAND REMOTES

+Control two different bands as one mobile.



KENWOOD

KCH-5 Dealer Channel/Alphanumeric Expansion Kit

Contents: 2 x 16K eeproms.



Total Number KCH-5's to order = (KCH-5 @ mobile) x (No. of mobiles)

Round up to nearest whole number. Refer to table below for KCH-5 @ mobile requirements.

Ordering Information				Dealer Installation Guide (see service manuals for details)			
Front panel used:	KCH-5 @ mobile			Per Front Panel ¹		RF Deck(#1) ²	
KCH-3 Basic Front	D/SH	DH	DB	IC3	R18	IC109	R156
32 Ch. (factory)	---	---	---	---	In	(4K)*	In
32A Ch.	0.5	1.0	0.5	16K	In	(4K)*	In
99 Ch.	0.5	0.5	1.0	---	In	16K	Out
99A Ch.	1.0	1.5	1.0	16K	Out	16K	Out
KCH-4 Full Front	D/SH	DH	DB	IC3	R33	IC109	R156
32A Ch. (factory)	---	---	---	(4K)*	In	(4K)*	In
160A Ch.	1.0	1.5	1.0	16K	Out	16K	Out

D= Dash Mount

SH= Single Head remote

DH= Dual Head remote

DB= Dual Band remote

A= Alphanumeric capable

(4K)*= factory installed 4K eeprom; replace with 16K eeprom for upgrade

16K= a KCH-5 eeprom

Per Front Panel¹: for dual head mobiles a 16K eeprom must be installed in each head for alphanumeric upgrade.

RF Deck(#1)²: in Dual Band mobiles, this is the deck the control head is connected to; it is not necessary to install an eeprom in RF Deck#2 for channel memory upgrade.

"BASIC RULE-OF-THUMB":

Upgrade eeprom in front panel for alphanumeric upgrade (DH mobiles- upgrade each front panel)

Upgrade eeprom in rf deck for channel memory upgrade (DB mobiles- rf deck#1 only).

-OR-

L613: Install Channel/Alphanumeric Expansion- upgrades any mobile to maximum ch./alpha. capability; w/KCH-3 to 99A; w/KCH-4 to 160A. Includes labor & required quantities of KCH-5. List=83.00 (KCH-5's for self-upgrade; list=\$49.00).

30-SERIES CONVENTIONAL MOBILE: Scan Information Programming

KENWOOD

Items in **BOLD type** are program parameters that may appear in the Scan Information (depending on the model setup) screen of the KPG-7D programming software. Other "scan-related items are covered here also, but may appear elsewhere in the program.

[General Information]

Scan enable/disable: this is done in the "Key Selection" section of the program.

Enable Scan: program the SCN key for "Scan" (default).

Disable Scan: program the SCN key for "None".

Single & Dual Priority Scan

Single Priority scan is enabled when the "priority ch. selection type" is set for P1.

Dual Priority scan is enabled when the "priority ch. selection type" is set for both

P1 &

P2.

note 1- Priority scan (single or dual) should only be programmed when there will be at least one "added" non-priority channel.
note 2- P1 has a higher level of priority than P2, therefore, when scanning and a call is received on P1, P2 is not checked since it has a lower priority level (see "Priority Scan & Lookback Operation").

[Priority Channel Selection Type]: Each priority channel (P1 & P2) can be programmed for one of the following selection types:

None- no priority channel; if P1 = None; then P2 = None automatically

Fixed- a fixed channel set by the program; the user cannot alter this.

Selected Channel- the channel selected before scan was initiated.

Operator-Selectable- enables "user-programmable priority" via the front panel keys.

Operation: (designed to prevent accidental priority ch. erasure)

P1 setting: select the desired ch.; hold Scan key + press Monitor key 3 times.

P1 de-select: hold Scan key + press D/A key 3 times.

P2 setting: select the desired ch.; hold Scan key + press Monitor key 2 times.

P2 de-select: hold Scan key + press D/A key 2 times.

[Group Scan]: (KCH-4 front panels only)

Single Group Scan- scans through the currently selected group only.

(Note: the group must be added and contain at least 2 or more added channels.)

Multi-Group Scan- scans all added groups (and all "added" channels within the group).

Channel Del/Add & Channel Group Del/Add: (see Channel Info. screen)

Preset: (default = added)

Channels: each can be preset for del/add status in the D/A column.

Groups: (KCH-4 only) each channel group can be assigned a del/add status; this especially useful in multi-group scan.

User-selectable- programming a panel key for D/A gives the user the ability to add and delete both channels and channel groups; the "re-program" the preset programming and is memorized.

Operation: (note: a priority channel cannot be normally be "deleted"; exceptions: "temporary nuisance deleted" or the "priority status" is de-selected with the operator-selectable priority feature.)

Add Ch.: Hold Scan key + press D/A once

Delete Ch.: Hold Scan key + press D/A once

Add Group: Hold Scan key + press Group Up key

Delete Group: Hold Scan key + press Group Down key

[Resume Time]: time "interval" from the end of a received call to the time scan automatically resumes. (choices: 0 to 5 sec. @ 0.1 sec. steps; default = 3 seconds).

[Lookback Times]: This is "how often" priority channel(s) are checked while receiving on a non-priority channel (see "Priority Scan and Lookback Operation" following). While receiving a call, the mobile will briefly switch to the priority channel(s) to check for activity; this will of course cause a slight breakup in the audio of the call being received. At any given time, the mobile's microprocessor chooses either lookback times A or B depending on the activity on the priority channel being "looked at".

Lookback A: Priority channel is not busy (i.e. no carrier present). This time is typically set shorter since the priority ch. should be theoretically checked more often so as not to miss a call. (default: 350ms / choices: 350ms -2900ms @ 50ms steps / this should be tested and adjusted to the user's needs; typical settings = 450-750ms)

Lookback B: Priority channel is busy, but tone squelched. This time is typically set longer than Lookback A since the priority ch. is now "busy with a user with a different tone" (i.e., it is occupied by a different talk group, so theoretically it should not have to be checked as often for activity of desirable listening). If the priority channel is "carrier-squelched, Lookback B is never used.

[Scanning & Lookback Operations]

No Priority Scan

- Channels are scanned in numerical order (even dual band mobiles).
Ch 1, Ch 2, Ch 3,Ch N,.....

Single Priority Scan

- Channels are scanned in the numerical order with the priority channel checked every other channel:
Ch 1, (P1), Ch 2, (P1), Ch3, (P1),.....Ch N, (P1),.....
- Receives call on a non-priority channel- P1 is checked according to Lookback A or B. If a P1 call is detected, the mobile unmutes on P1.
- Receives a call on P1- mobile unmutes on P1 until call ends

Dual Priority Scan

- Channels are scanned numerical order with both P1 & P2 checked in an alternating pattern:
Ch 1, (P1), Ch 2, (P2), Ch 3, (P1), Ch 4, (P2),Ch N, (P1), Ch N + 1, (P2),.....
- Receives a call on a non-priority ch.- P1 & P2 are checked in an alternating pattern (each priority according to lookbacks A or B.
- Receives a call on P1- mobile unmutes on P1 until call ends (P2 is not checked during this time because it is of lower priority).
- Receives a call on P2- mobile unmutes on P2, and checks P1 according to Lookbacks A or B.

[Revert Channel]: Programmable destination channel during scanning when:

1) Mic goes off-hook (scan stops), or 2) Scan key is pressed (exits scan mode).

The choices made available in the program screen will vary in accordance with:

1. If Single or Dual priority are enabled (No priority, P1 only or both P1 & P2).
2. Priority channel selection types chosen (fixed, selected, operator-selectable).

Choices: (3 to 8 of the following choices will appear)

- (a) **Selected Ch.-** last selected channel prior scan initiation
- (b) **Last Called Ch.-** last channel a call was received (& unmuted audio).
- (c) **Last Used Ch.-** last "transmitted on" channel.
- (d) **P1**
- (e) **P2**
- (f) * **sequence- P1 > P2**
- (g) * **sequence- P1 > P2 > Last Called Ch.**
- (h) * **sequence- P1 > P2 > Last Used Ch.**
- (i) * **sequence- P1 > P2 > Selected Ch.**

Note*: selections f to i become available when P1 and/or P2 are programmed for

"Operator-selectable" selection types. The user has the ability to de-select P1 or P2

therefore these sequences provide an automatic revert channel choice. If a priority channel is "de-selected" (set = None) then the next channel in the sequence becomes the revert channel.

This can be used for instances where a priority channel may be only occasionally used. If either p1 or

is of the "fixed" type it will not appear in any of the f to i sequences since it cannot be de-selected by the user.

30-SERIES MOBILES ANNOUNCEMENT: COMING IN EARLY 1993

NEW FEATURES

- **OFF HOOK SCAN CAPABILITY**
 - Dealer-Programmable: for on hook-only, or off hook scan (scan operation is not tied to the mic hook switch condition).
---Accommodates headset, handset, and remote PTT applications.
 - Channel / Group Selection during scanning.
[scanning will cease momentarily when the channel or group key is changed, a new selection is then made, the mobile resumes scan automatically after release]
- **HOME CHANNEL (HC)**
 - Programmable to any front panel key (HC key).
 - One-Touch selection of a designated Home Channel.
---Eliminates fumbling with the channel and group buttons.
 - User selection feature: user can reassign (select new desired home ch., hold SCN and press HC the home is set)
---Useful for mutual aid operations or district roaming .
 - Activates at anytime (scanning or non-scanning).
- **EXTERNAL USER-ADJUSTABLE SQUELCH (SQ)**
 - Programmable to any front panel key (SQ key).
 - Adjust Squelch Externally
---Useful on carrier squelched channels in high RF noise areas, or low band skip.
 - Sixteen Levels (User activates the "squelch set mode" (holds SCAN and presses SQ-CODE 9 appears in the LCD), rotates the channel selector knob to set; receive still function during adjustment).
 - Activates at anytime (scanning or non-scanning).
- **PUBLIC ADDRESS (PA) & INTERCOM (IC) BACKGROUND SCANNING**
 - Continues to scan channels and receive calls even if in PA or IC mode.
---No missed calls while in standby or due to forgetfulness.
 - PA & IC operation dominate (PTT will override any incoming call).
---No interruption of PA or IC communications.
 - Activates at anytime (scanning or non-scanning).
- **SPEAKER SWITCHING (SP)**
 - Activates at anytime (scanning or non-scanning)
- **MIXED CHANNEL STEPS for VHF High Band**
 - Channel Steps of 5 & 12.5 kHz steps can be programmed in the same RF deck.
- **NOTES:**
 - New firmware eprom version will be included in production radios.
 - New KPG-7D programming software version available.
 - KCH-6A will include HOME CHANNEL (HC) & SQUELCH (SQ) key label inserts.

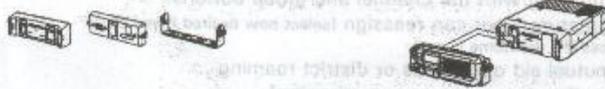
KCT-15A Control Head Cable (R) (R)
KCT-15B Control Head Cable (LTL) - standard length with package configuration sets
KCT-15C Control Head Cable (SSL)

18-00000-01 0/1818

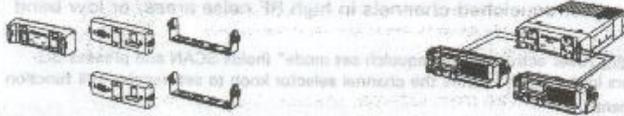
KENWOOD

REMOTE MOUNT CONVERSION KITS

KRK-2 Single Control Head Remote kit. Contains: 1pc. RF deck interface escutcheon*, 1pc. head rear cover, 1pc. head mount bracket, hardware. (Order one KCT-12 control head cable separately)



KRK-3DH Dual Control Head Remote kit. Contains: 1 pc. RF deck interface escutcheon*, 2pc. head rear covers, 2 pc head mounting brackets, hardware. (Order 2 x KCT-12 control head cables separately; different length cables o.k.)

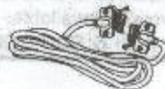


KRK-4DB Dual Band Remote kit. Contains: 2pc. RF deck interface escutcheons*, 1 pc. deck-to-deck connector cable, 1pc. head rear cover, 1pc. head mount bracket, hardware. (Order one KCT-12 control head cable separately)



* note: RF deck interface escutcheons are not interchangeable between kits.

REMOTE CONTROL HEAD CABLES



- KCT-12A** Control Head Cable (8 ft.)
- KCT-12B** Control Head Cable (17ft.)- standard length with package configuration sets.
- KCT-12C** Control Head Cable (25ft.)

D.C. CABLES & ACCESSORIES

MICROPHONES

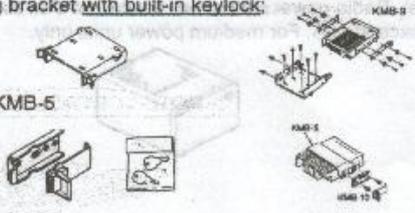
- KMC-14 Standard dynamic mobile microphone 
- KMC-2A Noise-cancelling microphone 
- KMC-7 DTMF microphone (backlit keypad) 
- KMC-7A DTMF / memory dial / dual ANI microphone (backlit keypad) 
- KMC-9 Base station desk-top microphone 

SPEAKERS

- KES-4 20 Watt max. external speaker; includes mounting bracket & hardware.
 Use: a. 13W outputs on RF deck rear acc. plug & control head
 b. 4 W standard output on control head rear acc. plugs.
 Color: all black body 
- KSP-1A 10 Watt max. external speaker; includes mounting bracket and hardware.
 Use: 4 W standard output on control head rear acc. plug.
 Color: Battleship gray front, dark grey back 

MOUNTING BRACKETS

- KMB-5 Medium power mobile mounting bracket with hardware (optional KMB-10 keylock adapter available). 
- KMB-9 High power mounting bracket with built-in keylock; includes hardware. 
- KMB-10 Keylock Adapter for KMB-5 



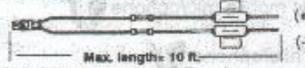
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D.C. CABLES & ACCESSORIES

KCT-14

Medium power (35W/45W) / Dash mount DC cable

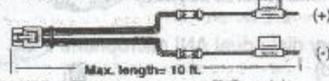
Includes: 3 x 15A blade fuses, 2 crimps, 2 terminal lugs, 3 sewraps



KCT-15

High power (75W/110W) / Dash mount DC cable

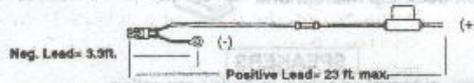
Includes: 3 x 25A blade fuses, 2 crimps, 2 terminal lugs, 3 sewraps



KCT-16

Medium power (35W/45W) / Remote mount DC cable

Includes: 2 x 15A blade fuses, 1 crimp, 1 terminal lug



KCT-17

High power (75W/110W) Remote mount DC cable

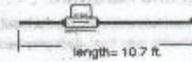
Includes: 2 x 25A blade fuses, 1 crimp, 1 terminal lug



KCT-18

Ignition-sense Cable

Use: a. Ignition-sensed mobile power-up
b. Ignition-sensed horn alert disable
(See service manual pg. 19 for details)



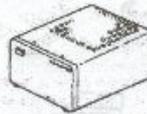
KLF-2

Line filter: suppress alternator whine 25dB; 25A max.



KPS-10A

117V AC power supply (7A continuous; 15A @ 25% duty cycle). Radio power should be reduced so that current does not exceed 10A. For medium power units only.



SIGNALLING OPTIONS / ACCESSORIES

KDS-10M

Two-tone Decoder (P.C. programmable) with KCK-5 interface/horn alert relay board; (requires KDS-15D software and a KPG-14 programming interface cable).

Features: one 2-tone pair, fast & slow formats, range: 282.2 hz to 3467 hz, auto-reset, group call on tone 1 or 2, call indication or transpond upon decode, alert tone, gap time prog. from 0-375ms (@ 25ms steps).



KDS-10

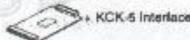
---Same as KDS-10M without** the KCK-5---



KDS-8BM30

Two-tone Decoder (tunable) with KCK-5 interface/horn alert relay board.

Features: one 2-tone pair, slow formats only, range: 286 hz to 1433 hz, group call on tone 1 or 2, call indication, alert tone.



KDS-8B

---Same as KDS-8BM30 without** the KCK-5---



KDD-4M30

DTMF Decoder with KCK-5 interface/horn alert relay board. Features: decodes all 16 DTMF characters; 1 to 7 digit code lengths (250M codes), group call, all call, over-the-air disable, remote reset, alert tone, 2 sec. horn alert output, transpond.



KDD-4

---Same as KDD-4M30 without** KCK-5---



KCK-5

Interface/ HornAlert output relay board for the KDS-10, KDS-8B, KDD-4; for the 30-Series mobiles only.



**Note: The KCK-5 Interface is required for direct plug-in compatibility of the KDS-10, KDS-8B & KDD-4 into the 30-Series mobiles. Tone boards are made available without the KCK-5 for service replacement use.

PROGRAMMING ACCESSORIES

KPG-7D

Program software disk for the 30-Series mobiles
Requires an IBM-compatible PC with min. 350K ram
and DOS V3.1 or later. Includes 3.5" & 5.25" disks.



KPG-4

Programming interface cable for the 30-Series mobiles
(see KPG-7D also).

Note: This program interface cable is also for the TK-795D/805D
& TK-930/931 trunked mobiles.



KPG-15D

Program software disk for the KDS-10/10M two-tone
decoder. Requires an IBM-compatible PC with min.
256K ram and DOS V3.1 or later. Includes 3.5" & 5.25" disks.



KPG-14

Programming interface cable for the KDS-10/10M two-tone
decoder (see KPG-15D).



KENWOOD

FRONT PANEL KEY FEATURES

- PA: PUBLIC ADDRESS-** All configurations have a built-in PA audio output available at the RF deck rear accessory jack (13W, 5% @ 4ohm).
- SP: SPEAKER CONTROL-** switch receiver speaker audio to the PA speaker output for extravehicular monitoring.
- IC: INTERCOM (dual head remotes)-** Allows simplex intercom communications between both control heads. Additionally, when the "Tx audio monitor" feature is enabled, either user hears the transmit audio of the other user.
- TA: TALKAROUND-** allows simplex repeater talkaround on any programmed channel.
- HA: HORN ALERT-** on/off control of the horn alert relay on the KCK-5 interface board for the installed 2-Tone & DTMF decode options.
- OPT: OPTION FUNCTION-** **see below (default feature: V/Sc Code Select)
- AUX: AUXILIARY FUNCTION-** **see below (default feature: Auxillary Control)
- **When a front panel key is "assigned" either the OPT or AUX function, any one of the three "features" below can be assigned to this key (note default features)
- When either the OPT or AUX function key is programmed for a feature, the remaining two features below become available for the other function key.
- (1) **Operator-Selectable QT/DQT Feature-** allows a "user" to manually select from a 16 QT tone/DQT code pair menu. The user can initiate this feature and it will override any current channels programmed tone/code. This feature is in addition to the per channel programmed QT/DQT capability.
- (2) **Voice Scramble/Encoder Control Feature -** Provides control of virtually any type or brand of voice scramble board. The mobile has a dedicated connection port (CN108) which includes microprocessor controlled BCD address lines (4 bits; 0000 to 1111) for selecting stored scramble codes either on a "fixed per channel basis" or a "user-selectable basis". Example: The Transcript SC-460 high security scrambler/ANI board- this BCD addressing allows selection of up to 16 scramble codes programmed into the scrambler memory. [The same connection port can also be used for devices or encoders that require parallel 4-bit BCD addressing].
- (3) **Auxillary Control Feature-** provides an open-collector output (sinks 100ma max.) for device triggering or relay closures. This output is provided simultaneously in the front panel(s) and in the RF deck. In the KCH-3 & KCH-4 front panels it is "factory-jumpered" to turn on & off the display and key backlighting. For remote mount mobiles this output is also pre-wired to the control head rear accessory plug.
- D/A: DELETE/ADD (Two-types)**
- (1) **"Temporary Nuisance Channel" Delete:** During scanning, if a bothersome channel is being received, holding the D/A key for two seconds deletes the channel temporarily until scan mode or power is cycled off/on. Temporary delete of "priority channels" is enabled or disabled via KPG-7D dealer programming.
- (2) **Memorized Add/Delete of Channels & Groups (KCH-4):** Accomplished via front panel key combinations, these delete/add settings are memorized after mobile power is cycled.
- MON: MONITOR-** disables QT/DQT & selective-call squelching (2-tone & DTMF decode options). The monitor status is memorized even after power is cycled.
- SCN: SCAN -** Single & Dual Priority Scan built-in; seven programmable parameters to meet virtually any scan requirement (see Scan Features for details).
- AN: ALPHANUMERICS ON/OFF-** allows toggling between the programmed alphanumeric and a normal Group#-Channel# display indication. (Note: this feature DOES NOT have to be programmed for alphanumeric display capability.)

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OTHER BUILT-IN FEATURES

- QT/DQT-** Built into the mobile mpu, provides CTCSS & Digital-coded squelch programmable on a per channel basis (allows decode only, encode only and cross-code operation).
- TIME OUT TIMER-** MPU-controlled to limit lengthy transmissions; set to "Off" or 15-225 sec.; a warning tone sounds upon timeout.
- BUSY CHANNEL LOCKOUT-** Inhibits transmission when the channel is busy; accompanied by a warning tone when PTT is pressed during a busy condition.
- OFF-HOOK DECODE-** Allows tone decoding to function even when the mic is off-hook
- OPERATOR ANNUNCIATOR TONES-** Each of the following tones can be technician enabled or disabled:
- Power On- indicates microprocessor initialization after mobile power up.
 - Control Tone- indicates programmed key and channel stop response.
 - Warning Tone- indicator for PLL unlock, time-out, & busy ch. lockout conditions.
- CHANNEL ROLLOVER-** The channel selector action is programmable for:
- Rollover- continuous channel selection with no stops.
 - Stop- channel selection stops at the last channel and is prevented at the first channel.
- EMBEDDED MESSAGE-** Provides a 40 character alphanumeric message stored in eeprom. Useful as an "electronic serial number", property I.D., sales date, or technician notes.
- PRIORITY CH. "TEMPORARY NUISANCE DELETE"**- If enabled allows the user to use the "temporary nuisance delete" feature on a priority channel.
- TX AUDIO MONITOR-** (dual head mobiles)- enabling this feature allows either control head to hear the transmit audio of the other.
- SINGLE OR DUAL PRIORITY SCAN-** Provides priority checking of one or two of the most important channels programmed. These can be in any channel group in a single band mobile or in either band dual band mobiles.
- THREE PRIORITY CHANNEL SELECTION METHODS-** Settable for Fixed channel, Selected channel or Operator-programmable.
- SINGLE GROUP OR MULTI-GROUP SCAN (KCH-4 used)-** Allows scanning of the currently selected channel group or all channel groups.
- FIXED DELETE/ADD OF CHANNELS & CHANNEL GROUPS-** The channel scan list can be customized for the end-user needs. Both individual channels and individual groups can be added or deleted from the scanning process.
- OFF-HOOK REVERT CHANNELS-** Choices of: Priority 1, Priority 2, Selected Ch. Last Called Ch. or Last Used Ch.. The programming software automatically displays the choices available for the particular channel scheme.
- PRIORITY LOOKBACK INTERVALS-** (Lookback A & B) Two priority channel checking intervals that can be adjusted to optimize priority capture (A= pri. non-active; B= pri. active, but tone squelched).
- SCAN RESUME TIME-** Settable from 0 to 5 sec. depending on the users needs.
- IGNITION-SENSE CAPABILITY-** (w/KCT-18) For ignition-sensed control for mobile power on/off or horn alert disable.
- P.C. PROGRAMMABLE-** IBM p.c. programmable with the KPG-7D software & KPG-4 cable.
- CLONABLE-** Clone with the standard mic cord (between identically configured mobiles).

QUESTIONS & ANSWERS: COMMONLY ASKED QUESTIONS

GENERAL

Q: The 30-Series comes available in individual component form, can I order them in fully assembled form?

A: YES, the price pages outline a simple formula for ordering any band and power range in any configuration. Simply specify:

- 1) Model package name: TK-730HBK FHS1
- 2) Labor Code: Specify the appropriate "no charge" assembly labor code.

Model package name:

RF deck: TK-730HBK (730: VHF high band/ High power/ K: 150-174 band)

Configuration accessory set: FHS1 (Full front/KCH-4/High Power accessories/Single Head remote kit)

Q: Can I convert a Dash Mount into a Single Head remote mount without re-programming?

A: Yes; a dash and single head remote are the same with respect to programming; i.e. a single head/single band mobile.

DUAL HEAD MOBILES

Q: Are the type control head front panels on a Dual Head mobile supposed to be the same type?

A: Yes; due to the differences in display and programmable key features between the KCH-3 & KCH-4, the front panels cannot be mixed.

Q: Can a Dual Head mobile operate with one head removed?

A: Yes; if either head is removed the mobile will still function normally.

DUAL BAND MOBILES

Q: Do channels have to be grouped by band?

A: No, VHF and UHF channels can be put in any sequence; when a channel is selected or scanned, the mobiles microprocessor will address the appropriate rf deck.

Q: If one RF deck stops working (ex: VHF low band/VHF high band), does the other deck still operate?

A: Yes; Depending on the failure, PLL failures are indicated when a channel is selected in the failed band by an unlock warning tone indication and the display blinks; also the unit will not scan. Loss of receive-sense or TX power have no failure indications.

Q: Can cross-band channels be programmed?

A: This operation is not available at this time.

Q: Is crossband repeat available?

A: This option is not available at this time.

Q: Can I put two control heads on a Dual Band mobile?

A: This option is not available at this time.

KPG-7D PROGRAMMING

Q: I can't seem to enter 6.25 kHz channels when I enter TK-730 channel data—is there something I'm missing?

A: Yes, you need to hit "Shift + F6" to bring up the channel step selection and change it from the 5 kHz default setting.

Q: If I convert a mobile, add/subtract channel capacity or alphanumeric capacity, can I convert the old program information to fit the new mobile?

A: Yes; however if channel data already exists that conflicts with the new model setup a warning will be displayed that the old non-compatible channel data will be cleared if you continue to convert the program data.

Q: I sometimes get a "model mismatch- reset and retry again?" error message--what is this?

A: This can be caused by old or test programming data in the eeproms from a previous programming (commonly occurs if a mobile is re-configured from parts of another mobile). Simply reset the mobile in program mode and try writing again. If this fails then chances are the mobile eeprom memory setup (jumpers too) do not match the model setup you are trying to program into the mobile.

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RELIABILITY

	MILSTD810-C	MILSTD810-D
Low Pressure	500.1/Procedure 1	500.2/Procedure 1
High Temperature	501.2/Procedure 1,2	501.2/Procedure 1,2
Low Temperature	502.1/Procedure 1	502.2/Procedure 1,2
Temperature Shock	503.1/Procedure 1	503.2/Procedure 1
Solar Radiation	505.1/Procedure 1	505.2/Procedure 1
Rain	506.1/Procedure 2	506.2/Procedure 2
Humidity	507.1/Procedure 2	507.2/Procedure 2
Salt Fog	509.1/Procedure 1	509.2/Procedure 1
Dust	510.1/Procedure 1	510.2/Procedure 1
Vibration	514.2/Procedure 8,10	514.3/Procedure 1
Shock	516.2/Procedure 1,2,3,5	516.3/Procedure 1,3,4,5,6

+Meets or exceeds Dept. of Agriculture and U.S. Forestry specifications for Vibration, referencing EIA-152B and EIA-204C.

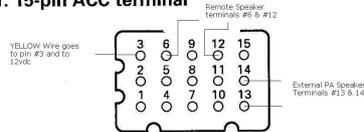
+Protection against voltage surges, reverse polarity, and accidental 24V connection.

TK-830/(B)/(D)

TERMINAL FUNCTIONS

1. Functions of Pins Used During System Set-up

1-1. 15-pin ACC terminal



1 pin : HK (MIC Hook Signal Input/Output)

This normally functions the same as for the transceiver MIC HOOK (microphone). High (5V) : Offhook; Low : Onhook.

Since the MIC HOOK can be controlled by using this pin as an input pin, the hook operation need not be performed from the microphone. Set this pin to low to automatically perform the onhook operation.

2 pin : ME (MIC Earth)

Use this MIC earth pin if the ACC terminal MIC is used.

3 pin : IGN (Ignition Input)

If you use this pin, see the KCT-18 section (page 19) of this service manual.

4 pin : DEO (Detect Signal Output)

The transceiver detection output (400mV/47kΩ) is present.

5 pin : MIC (MIC Signal Input/Output)

Same as the transceiver MIC input because this pin is directly connected to the transceiver MIC input. 5mV/3kHz dev. (600Ω) modulation is gained on input. The input from the transceiver panel is output as it is.

6 pin : ES1 (Output for External Speaker A)

12 pin : ES2 (Output for External Speaker A)

Output for External Speaker (BTL 13W/5%)

7 pin : SB (DC Power Output after Power Switch)

When you modify your radio as described in system set-up, take the following precaution.

The rating of pin 7 (SB) of the accessory connector (J4) on the rear of the radio is 13.6V (1A). Insert a 1A fuse if you use the SB pin for external equipment.

8 pin : PTT (PTT Signal Input/Output)

Normally functions the same as the transceiver PTT (microphone). It is high (5V) when the PTT is off and low when the PTT is on, to control the external PTT. Since the PTT can be controlled by using this terminal as an input pin, the microphone PTT operation is not required. Set this pin to low to perform the PTT operation.

9 pin : RS2 (Output for Remote Speaker)

If the speaker input is not applied to this remote speaker input pin, the front panel speaker is non-functional. (See the KES-4 section (page 20).)

10 pin : HN1 (Horn Alert Signal Output 1)

11 pin : HN2 (Horn Alert Signal Output 2)

Output pin for the horn alert relay when the KCK-5 is connected (rating: 24V DC/1A). See the KCK-5 service manual. (B51-8155-00)

If you do not use the KCK-5, another function could be output to this pin after special modification.

13 pin : OS1 (Output for External Speaker B)

14 pin : OS2 (Output for External Speaker B)

PA speaker output pin (BTL 13W/5%)

15 pin : E (Earth)

Use this pin as the ground pin when external equipment is connected to the ACC terminal.

1-2. Control unit (X57-3740-XX) (A/4)

• CN106 to signaling

1 pin : AC2 (Audio Control 2)

External audio control pin for optional signaling. Normally high (5V). When it is switched to low by external control, such as optional signaling, audio muting is canceled and the **CALL** indicator flashes. Note that the audio muting is not canceled unless the SQ on the main unit is also canceled.

2 pin : PTT (PTT Signal Input/Output)

Same as pin 8 of the 15-pin ACC terminal.

3 pin : DEO (Detect Signal Output)

Same as pin 4 of the 15-pin ACC terminal.

4 pin : E (Earth)