Your Interoperability Solution.

A True <u>Triple Repeater Controller</u> including LED Display Cabinet

Not just another three-port controller, the S-COM 7330 is a low-cost, highly flexible *triple repeater controller* with all the features you need to handle three full-duplex repeaters, cross-band repeaters, RF links, Internet links, and so on.

The 7330 saves you money and rack space by incorporating state-of-the-art SoC (System-on-a-Chip) technology to replace numerous ICs.

Features that are extra-cost options on other controllers are standard in the 7330. Each port has digital audio delay, user-created digitized speech, and CTCSS encode with reverse burst, eliminating cumbersome modules and daughterboards. A space-saving 1U rackmount cabinet with an informative LED display is included at no extra cost.

Other controllers have only one tone generator and audio storage system for all repeaters, resulting in delays when repeaters are required to wait for resources. The 7330 has separate tone and digital audio generators for each port, allowing any message to be immediately sent to any transmitter. And, the flexible digital audio file playback system replaces obsolete speech synthesizers and short-duration audio recording ICs.

All of these features are standard and included in our low price:

- ✓ Three receiver interfaces
- ✓ Three transmitter interfaces
- ✓ Three DTMF decoders
- ✓ Three dual tone generators with remote level adjust
- ✓ Three digital audio players with remote level adjust
- ✓ Three CTCSS encoders with reverse burst
- ✓ Three adjustable digital audio delays
- ✓ Three 5 V/25 V A/D inputs
- ✓ Four logic inputs
- ✓ Eight logic outputs
- ✓ Two RS-232 ports
- ✓ 1,600 digitized speech words supplied
- ✓ 2,000 words/13 minutes user-created digitized speech
- ✓ 100 scheduler setpoints
- ✓ 340 programmable macros
- ✓ Real-time clock with TCXO timebase
- ✓ Fast firmware upgrades via RS-232
- ✓ Mix or prioritize receivers to each transmitter
- ✓ Improved and expanded command set (vs. our 7K)

- ✓ Per-path programming (courtesy, timeout, etc.)
- ✓ Per-transmitter programming (ID, tail, etc.)
- ✓ 5-pole LP filters on tone & digital speech generators
- ✓ 5-pole LP filters on CTCSS generators
- ✓ Wide-range power supply (9 V to 36 V DC)
- ✓ Reverse polarity power supply input protection
- ✓ Large, non-polarized audio coupling capacitors
- ✓ Push-on jumpers for pullup resistors
- ✓ Push-on jumpers for RX de-emphasis
- ✓ Push-on jumpers for RX gain (normal/high)
- ✓ Push-on jumpers for TX gain (normal/low)
- ✓ Push-on jumpers for COR, CTCSS, and PTT invert
- ✓ Socketed PTT/logic output driver ICs
- ✓ Locking DC power input connector
- ✓ DE-9F connector for each radio
- ✓ 1U rack cabinet only 7 inches deep (w/o connectors)
- ✓ 28-LED front panel status display
- ✓ Rear panel RESET and INITIALIZE pushbuttons
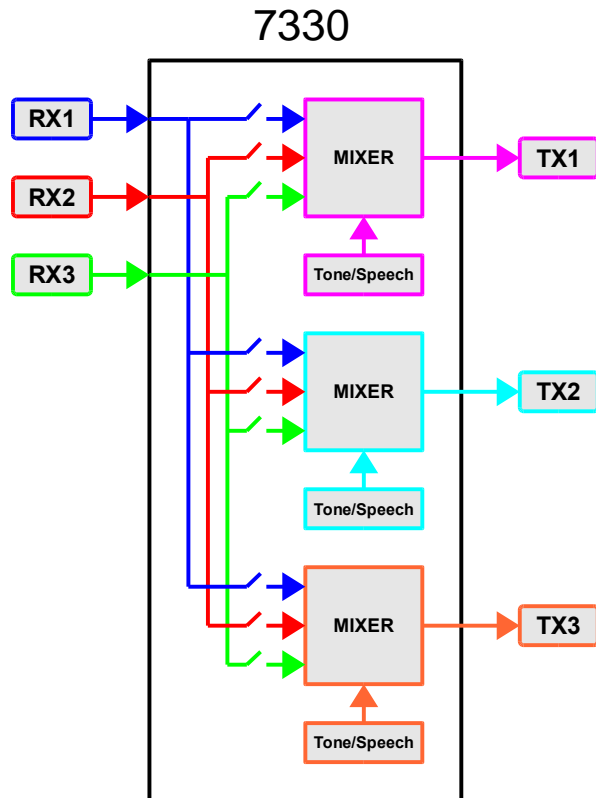- ✓ Legendary S-COM quality and reliability

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S|COM

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Download the 7330 User Manual, white papers, and other information at www.scomcontrollers.com.

Price, $550; shipping and handling, $30
Optional Radio Port Cables, $39 each

Visa, MasterCard, Discover and AmEx accepted

What sets the 7330 apart from other three-port controllers? See the diagram.

7330

```
RX1 ──▶        ┌─────────┐
        ──▶    │  MIXER  │──▶ TX1
RX2 ──▶        │         │
        ──▶    └─────────┘
RX3 ──▶         ┌──────────────┐
               │ Tone/Speech  │──▲
                └──────────────┘

        ──▶    ┌─────────┐
        ──▶    │  MIXER  │──▶ TX2
        ──▶    └─────────┘
               ┌──────────────┐
               │ Tone/Speech  │──▲
               └──────────────┘

        ──▶    ┌─────────┐
        ──▶    │  MIXER  │──▶ TX3
        ──▶    └─────────┘
               ┌──────────────┐
               │ Tone/Speech  │──▲
               └──────────────┘
```

You can configure your system any way you wish by programming the nine paths that connect the three receivers to the three transmitters.

Each path can be set up with its own programmable courtesy beep, timeout timer, access mode, and much more.

That means any receiver and any transmitter can act as a full-duplex repeater, full-duplex link, half-duplex link, or similar device. This capability also provides complete control over the tones sent to a transmitter – critical to meet the strict IRLP guidelines for correct operation.

A priority/mix system lets you choose which receivers are allowed to feed each transmitter. You can select whether the receivers mix or follow a priority rule when several receivers are active at the same time.

Add to that a complete set of programmable timers, messages, macros, software switches, scheduler setpoints, and digitized speech words (with 13 minutes of custom speech playback time), and you have a super-flexible solution to the problem of controlling multiple radios.

With its very flat frequency response, the 7330 won't color your audio. And your repeater stays a "good neighbor" thanks to 5-pole Butterworth lowpass filters that keep controller-generated CTCSS, CW, beeps, paging tones, and digital audio playback from splattering into adjacent channels.

Hardware Specifications

-3 dB frequency response: 18 Hz to 16 kHz into 600
RX audio input impedance: ×25 k
RX de-emphasis corner frequency: ~200 Hz
RX audio delay: 30 ms to >250 ms, jumper enabled
COR and CTCSS input thresholds: ~2.1 V
COR and CTCSS pullups: 4.7 k to +5 V, jumper enabled
COR and CTCSS input logic: low/high, jumper selected
TX audio output impedance: 600
TX audio output level: 2 V_{P-P} (10 k), 1 V_{P-P} (600)
TX PTT: power MOSFET, 45 V, 150 mA
Tone generators: 3, single/dual tone
Tone accuracy: 0.12% up to 1700 Hz
Tone THD: -35 dB @ 100 Hz (worst case)
CTCSS encoders: 3, selectable 120° or 180° reverse burst
CTCSS encode tone accuracy: >0.02%

CTCSS encode THD: -35 dB @ 67 Hz (worst case)
CTCSS encode level: 0 to 2 V_{P-P} into 20 k
Logic inputs: NPN buffered
Logic input threshold: ~2.1 V
Logic input pullups: 4.7 k to +5 V; jumper enabled
Logic outputs: power MOSFET, 45 V, 150 mA
A/D inputs: 3, overvoltage protected
A/D input range: 0 to 5 V or 0 to 25 V, jumper selected
RTC timebase: 32.768 kHz TXCO
RTC timebase accuracy: ±1 minute/year, 0°C to 40°C
Flash memory: 128 Mb (16 MB)
RAM: 512 kB CMOS SRAM, coin cell backup
Input voltage: +9 V to +36 V DC
Power consumption: ~1.5 W
DC power input protection: reverse polarity

Interconnected repeater systems help amateur radio serve the public interest. Whether you're building a new system or expanding an existing one, get the triple repeater controller with the features you need – the new **S-COM 7330**, *proudly made in the U.S.A.*