



## So, you're thinking about going digital!

Good idea! New FCC standards require cutting bandwidth from 25 kHz to 12.5 kHz in the next few years with all federal agencies already operating at 12.5 kHz in the P25 digital mode. At the state level, the Alabama Forestry Commission will be operating at 12.5 kHz in the analog mode by the end of 2007.

The trick is to select the RIGHT digital system based on your individual needs. Currently, there are three basic systems as follows:

The Motorola MotoTRBO system is a popular choice. Additional information is available at <http://motosbest.com/mototrbo.aspx>. MotoTRBO operates in either 25 or 12.5 kHz modes utilizing a proprietary digital platform known as TDMA. Of the three models available (non-display, display, and display with GPS), we normally recommend the top of the line models since there is only a 10% difference in cost. This is an excellent system that has been selected by users as small as the Forest Home VFD (suburb of Butler, AL), and as large as the Monroe County School Bus system (the largest system yet sold in the Southeastern US).

The second system is the governmental standard APCO-25 (or P25 if you prefer) that has been selected by all Federal agencies including the Department of the Interior and the US Forest Service. This is the most mature of all the analog/digital systems with no surprises. Additionally, the open standard version of P25 (which is what we offer) allows you to select from multiple vendors including BK/Relm, ICOM, Kenwood, Motorola, EF Johnson, MA-COM, Midland, Thales, Tait, and Vertex. Mobile and handheld prices are comparable to MotoTRBO. Repeater stations are considerably more expensive. Additional information is available at [www.falcondirect.com/p25](http://www.falcondirect.com/p25). In the Birmingham Alabama area this is the system of choice for Concord and Hanceville Fire Departments.

The third system is based on the International FDMA standard currently recognized by ICOM and Kenwood joint venture as well as others who are introducing this technology both in Japan, and the USA. This technology is a little less expensive than MotoTRBO and P25, yet it is the only one of the three currently capable of meeting 6.25 kHz technical standards that will be mandatory for all manufacturers effective January 1, 2011 (See our October Newsletter at [www.falcondirect.com/newsletters/october](http://www.falcondirect.com/newsletters/october) for additional details). This is the system of choice for Mt. Olive FD and Warrior PD in the metro Birmingham area.

Which one is best for you? That will be YOUR decision, hopefully with Falcon Direct as your selected vendor! Additional comments and price comparisons follow.

*Burch H. Falkner*

*At your service!*

## General Comments

Converting your system from 25 kHz to 12.5 or 6.25 kHz digital operation will require filing for an amendment of your FCC license. When this is done, your existing frequencies will require new coordination which could result in a decrease in authorized power. We bring this to your attention only to make you aware that you may not be able to utilize the power ratings currently authorized on your FCC license.

The primary factor for range improvement comes by increasing antenna height where possible (also requires coordination for modifying FCC license). The second most beneficial improvement comes with the use of a receiver preselector (amplifier if you will) to increase the received signal from handheld and mobile units. Most users do not specify a preselector but we believe one should be included. Accordingly, we will show the price of a standard 45/50 watt repeater as well as a preselector and 100 watt option.

Relative to MotoTRBO, it should be noted that this system does not have selective call with audible alert comparable to current 2-tone sequential paging. The ICOM 6.25 kHz system also does not have paging capability comparable to 2-tone paging IN THE DIGITAL MODE.

The current ICOM FDMA system, when operated in the analog mode has all the features and functionality of current analog systems. In the digital mode, the current version provides neither 2-tone paging or scan. The advanced version, which will begin shipping late in the 4<sup>th</sup> quarter of 2007 WILL scan both analog and digital channels as well as provide 2-tone paging and offer full compatibility with MDC-1200 digital ID.

The current version of ICOM P25 mobile and handheld equipment has no limitations other than the common limitation shared with MotoTRBO of not being adjustable for 6.25 kHz operation. The P25 system featuring the Midland Base Tech III station is the ONLY repeater capable of operating in both analog and digital modes simultaneously.

## Pricing comments

Over time, we have learned that the true cost of ownership is not just the initial cost, but rather a composite of purchase price, maintenance, replacement of expendable items such as batteries, and downtime. Accordingly, we believe it would to your best interest to consider extending the manufacturers warranty to the maximum along with a supplemental service program to minimize cost and downtime.

We have included, as an option, the cost of extending the warranty on all times quoted from two to three years or three years as applicable to five years (The Midland P25 repeater station quoted comes with a standard 5 year warranty).

Additionally, our quote will include the benefits of our Gold Star Customer Service Program which includes:

Spare equipment will be maintained at our Center Point facility for every component of your system.

Free registration in our Time Share Program (See [www.info4u.us/TimeShare.pdf](http://www.info4u.us/TimeShare.pdf))

Discounts on replacement batteries and speaker-microphones plus free programming for the life of the equipment (See [www.info4u.us/goldstar.pdf](http://www.info4u.us/goldstar.pdf)).

# System Prices – State/GSA Contracts

Prices shown below assume standard configuration in black. Recommended options are shown in red. All prices shown assume Alabama State Contract pricing on MotoTRBO and Midland repeater. FDMA 6.25 ICOM equipment assumes Federal GSA pricing.

System	MotoTRBO	FDMA 6.25	Midland P25
<b>Repeater Station</b>	\$2,125.00 (45W)	\$1,895 (50 W)	\$9,000 (110W)
Duplexer (50 watt rating)	33.50	1500	1885
Add optional preselector	285.60	400	400
Add AC protection*	79.00	79	79
Add lightning arrestor (coaxial)*	55.00	55	55
Add Battery backup cable*	Included	Included	Included
Add 3rd year warranty	Standard	55	Included
Add 5 year warranty i/o 3 year adds	\$114.00	\$108	Included
Shipping*	\$75	\$75	\$75
Simultaneous analog/digital	No	No	Yes
Manufacturer	Motorola	ICOM	Midland
<b>Repeater, additional equipment</b>			
Add 100W amplifier/power supply*	\$1,500.00	\$1,500	110W Included
Add wall mounting bracket	70.55	Not available	Not available
Cabinet i/o mounting bracket*	300.00	300	Included
Cables for battery backup*	39.00	39	39
Ground strip*	50.00	50	50
DB222 Gain antenna*	299.00	299	299
200' 7/8" Coaxial cable*	1,000.00	1,000	1,000
Polyphaser*	52.00	52	52
Antenna mounting clamps*	Included	Included	Included
Associated connectors*	100.00	100	100
<b>Portable radio - Price each</b>	\$922.25	\$695	\$995
Add GPS receiver	42.25	Not available	Not available
Add 3 year warranty	Standard	29	54
Add 5 year i/o 3 year warranty	108.00	\$57	84
Shipping (per radio)*	\$5.00	\$5	\$5
2-tone paging compatible	No	Yes (New version)	Yes
IP57 Water submersion rated	Yes	No (IP54)	Yes
Manufacturer	Motorola	ICOM	ICOM
<b>Mobile radios - Price each</b>	\$782.00	\$595	\$1,095
Add display microphone	\$69	Not available	Not available
Add GPS receiver	42.25	Not available	Not available
Add 3 year warranty	Standard	29	39
Add 5 year i/o 3 year warranty	108	57	84
Optional roof mount antenna/cable*	25	\$25	\$25
Shipping (per radio)*	\$8	\$8	\$8
2-tone paging compatible	No	Yes	Yes
Manufacturer	Motorola	ICOM	ICOM

Note: Items followed by an "\*" are subject to non-contract pricing. Programming is not included. Prices shown above do not constitute and offer to sell, but are provided only for reference using public information available on the Federal GSA contract and the Alabama State Contract.

Delivery dates for VHF MotoTRBO stations have not yet been announced as of 11/01/2007. Delivery can be made within 30 days after receipt of order on the other MotoTRBO or P25 systems. Assume 60 days for the latest version FDMA 6.25 system. Terms – Net 10 days after receipt of equipment.

Effective 11/01/2007